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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,437	12/28/2001	James A. Cox	V637-02531 US	4433
22913	7590	06/08/2004	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			VY, HUNG T	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

10/028,437

Applicant(s)

COX ET AL.

Examiner

Hung T Vy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/19/2003 and 5/22.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 5/19/2004.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### **Acknowledges**

1. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 05/19/2003 and 05/22/2003. The references cited on the PTOL 1449 form have been considered.

### **Election/Restrictions**

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I. Claims 1-13, drawn to a vertical cavity surface emitting laser, classified in class 372, subclass 96.

Group II. Claims 14-24, drawn to a method of forming a vertical surface cavity emitting laser, classified in class 438, and subclass 31.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of following can be shown: (1) that the process as claimed can be use to make other and materially different product or by hand, or (2) that the product as claimed can be made by another and materially different process.

(MPEP § 806.05(f)). In the instant case, it would be possible to form cavity surface emitting laser (claim 1) without forming a first and second spacer (Claim 14).

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, the fields of search are not co-extensive. Therefore, separate examination would be required and restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Attorney Eric L. Maschoff on 5/12/2004, a provisional election was made **without** traverse to prosecute the invention of Group I, **claims 1-13**. Affirmation of this election of claims must be made by applicant in replying to this Office action.

**Claims 14-24** are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### **Specification**

5. The specification is objected to for the following reason:

The specification has been checked to the extent necessary to determine the presence of possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### **Double Patenting**

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims (see table below) of copending Application No. 10/028436.

Present invention claims	Copending application
Claim 1	1
6-7	5

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in present application are similar to claims in copending application as shown.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

**Claim Rejections - 35 USC § 102**

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7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

**A person shall be entitled to a patent unless -**

**(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.**

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

Claims 1-13 are rejected under 35 U. S. C. § 102 (e) as being anticipated by Hu et al., U.S. patent No. 6,658,040.

Regarding claims 1-6,9-13, Hu et al. disclose a vertical cavity surface emitting laser for emitting light having a wavelength, comprising: a substrate (230); an active region (205) adjacent said substrate; a first mirror (220) between said active region (205) and said substrate (230), and a second mirror (210) adjacent said active region (205), said active region (205) being between said second mirror (220) said first mirror (210); and an ion implanted (250) (see column 1, line 45 or fig. 2-3, or 6-7) spatial region that extends into said active region (205); wherein said second mirror includes an oxide insulating region (188) (See column 6, line 52-60); and wherein said first mirror and said second mirror are separated by an optical path length of least one wavelength

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(because the choice of material depend on the desired wavelength (See column 7, line 24-30)), oxide insulating region and said ion implanted spatial region confine current flow through a center of said ion implanted spatial region (See fig. 6-7), aluminum content layer is oxidized insulating region (See column 7, line 60-68 and column 8, line 1-9).

Regarding claims 7-8, Hu et al. disclose a first spacer between first mirror and said active region, and a second spacer between active region and second mirror (See column 7, line 24).

### **Citation of Pertinent References**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Morgan discloses Multi-gigaherts Frequency-Modulated Vertical-Cavity Surface Emitting Laser, U.S. Patent No. 5,574,738.

The patent to Lee et al. disclose Index Guided Vertical Cavity Surface emitting Lasers, U.S. Pub. No. 2003/0138017.

The patent to Tatum et al. disclose Single Mode VCSEL, U.S. Pub. No. 2004/0042518.

The patent to Jewell. Discloses Light Emitting Device Having An Electrical Contact Through a Layer Containing Oxidized material, U.S. Patent No.5, 729,566.

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The patent to Jewell. Discloses Method for Fabricating a Semiconductor Device,  
U.S. Patent No. 5,882,948.

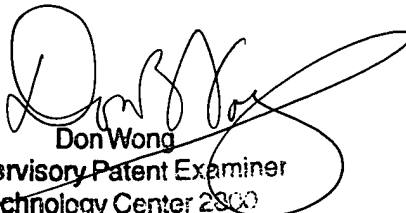
### Conclusion

9. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (571) 272-1954.

The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800

Hung T. Vy  
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May 19, 2004